L25 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:350946 BIOSIS
DN PREV199497363946
TI Isolation, identification and characterisation of a soil bacterium producing an enzyme with L-phenylalanine oxidase activity.
AU Brearley, G. M. (1); Price, C. P.; Atkinson, T.; Hammond, P. M.
CS (1) Div. Biotechnol., PHLS, CAMR, Porton Down, Salisbury, Wilts. SP4 0JG UK
SO Archives of Microbiology, (1994) Vol. 161, No. 5, pp. 409-413. ISSN: 0302-8933.
DT Article
LA English
AB A gram-positive, mesophilic bacterium which assimilated L-phenylalanine but which failed to utilize L-tyrosine was isolated from soil. The isolate, identified as a strain of **Bacillus carotarum**, converted L-phenylalanine to phenylpyruvate with the initial step catalysed by an inducible, intracellular enzyme which possessed L-phenylalanine oxidase activity. Phenylalanine oxidase has not been previously reported in Gram-positive bacteria, although there are a few examples of nonspecific L-amino acid oxidases with activity towards L-phenylalanine. The isolate grew abundantly on complex media but failed to synthesize significant amounts of the enzyme in the absence of L-phenylalanine. The highest enzyme levels were achieved in a chemically defined minimal salts medium containing the amino acid at 10 g/l as the primary carbon and energy source.

L25 ANSWER 2 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:448503 BIOSIS
DN PREV199497461503
TI Purification and partial characterisation of a broad-range L-amino acid oxidase from **Bacillus carotarum** 2Pfa isolated from soil.
AU Brearley, G. M. (1); Price, C. P.; Atkinson, T.; Hammond, P. M.
CS (1) Div. Biotechnol., PHLS, CAMR, Porton Down, Salisbury, Wiltshire SP4 0JG UK
SO Applied Microbiology and Biotechnology, (1994) Vol. 41, No. 6, pp. 670-676.
ISSN: 0175-7598.
DT Article
LA English
AB The L-amino acid oxidase (L-aao) from **Bacillus carotarum** 2Pfa was purified to homogeneity, as judged by polyacrylamide gel electrophoresis, from crude sonicated cell extract by a combination of anion exchange chromatography and gel filtration. The purified enzyme was a dimer with a native relative molecular mass of approximately 102,000 to 115,000 and comprised two identical subunits of 54,000. The isoelectric point of the L-aao was at pH 4.8, the pH optimum was at 8.0-8.5 and the temperature optimum was at approximately 50 degree C. It was stable for several months at +4 degree C and at -20 degree C. The enzyme contained 2 mol flavin adenine dinucleotide (FAD)/mol enzyme and exhibited relatively broad range substrate specificity, oxidizing a total of ten L-amino acids and, albeit to a much lesser extent, seven D-amino acids. Kinetic studies revealed that the three aromatic L-amino acids were the preferred substrates.